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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,016	07/23/2003	Manish Sharma	200207743-1	8424

22879 7590 12/10/2004

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EXAMINER

TUNG, KEE M

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,016

Applicant(s)

SHARMA ET AL.

Examiner

Kee M Tung

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/23/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Goodman (US 2002/0073413).

Goodman teaches a parallel processor (Fig. 1, processor 105) comprising a plurality of non-volatile memory cells (113); a plurality of processor elements (115), at least one non-volatile memory cell (113) corresponding with each of the processor elements, the processor elements each accessing data from an at least one corresponding non-volatile memory cell, and performing processing on the data; and a plurality of RAM (114). Therefore, at least claims 1 and 4 are anticipated by Goodman.

As per claim 2, Goodman teaches the non-volatile memory cells comprising magnetic memory cell (magnetic memory cell is just one of the many non-volatile memory, others include optical memory, etc...).

As per claim 3, Goodman teaches each processor element can access a plurality of non-volatile memory cells (access from interface 112 via bus 106).

As per claim 5, Goodman teaches each magnetic memory cell is formed adjacent to a substrate, and the corresponding processor element is formed in the substrate adjacent to the magnetic memory cell (in the same processor board 105).

As per claim 6, Goodman teaches each magnetic memory cell is formed adjacent to a substrate, and the corresponding processor element and DRAM cell are formed in the substrate adjacent to the magnetic memory cell (in the same processor board 105).

As per claims 7 and 8, Goodman teaches a master processor (108) for providing processed data from the plurality of processor elements and performs additional processing of the data.

Claim 22 is similar in scope to claim 1, and thus is rejected under similar rationale.

Claim 23 is similar in scope to claim 1, and additionally requires a CPU (inherent by any computer system to include the CPU in order to function properly).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodman (US 2002/0073413) in view of Young (5,621,683).

The teachings of Goodman are given in previous paragraph of this Office action. However, Goodman fails to explicitly suggest or teach an array of image sensors and an image sensor corresponding with each of the magnetic memory cells. This is what Young teaches (col. 1, lines 6-18). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of image

sensor of Young into the memory substrate of Goodman because this is what Young teaches (see col. 1, lines 6-18). Therefore, at claim 9 would have been obvious.

As per claim 10, Young teaches each image sensor receives image data that can be stored in a corresponding non-volatile memory element (title).

As per claim 11, Goodman teaches each processing element performs processing on the image data stored in a corresponding non-volatile memory element (Fig. 1, 105).

As per claim 12, Goodman teaches received image data is additionally stored in at least one DRAM cell corresponding with the non-volatile memory element (114).

As per claim 13, Young teaches each image sensor (col. 1, lines 6-18) is formed adjacent to a corresponding non-volatile memory element, and each non-volatile memory element is formed adjacent to a substrate, the substrate comprising a corresponding processor element (Goodman, 115) formed adjacent to a non-volatile memory element.

As per claim 14, Young teaches each image sensor (col. 1, lines 6-18) is formed adjacent to a corresponding non-volatile memory element, and each non-volatile memory element is formed adjacent to a substrate, the substrate comprising a corresponding processor element (Goodman, 115) and DRAM cell (114) formed adjacent to a non-volatile memory element.

As per claim 15, the combined system fails to explicitly teach an array of display pixels, a display pixel corresponding with at least one of the non-volatile memory cells. However, it would have been obvious to one of ordinary skill in the art at the time the

present invention was made to implement the teachings of Goodman as claimed because an image comprises a plurality of display pixels as well known and well use in the art.

As per claim 16, Goodman teaches each display pixel displays image data that is stored in a corresponding non-volatile memory element (113).

As per claim 17, Goodman teaches each processing element (115) performs processing on the image data stored in a corresponding non-volatile memory element (113).

As per claim 18, Goodman teaches the received image data is additionally stored in at least one DRAM cell (114) corresponding with the non-volatile memory element.

As per claim 19, Goodman teaches at least one display pixel receives image data from a plurality of non-volatile memory elements (113).

As per claim 20, each display pixel is formed adjacent to a corresponding non-volatile memory element (113), and is formed adjacent to a substrate comprising a corresponding processor element (115) formed adjacent to the non-volatile memory element.

As per claim 21, each display pixel is formed adjacent to a corresponding non-volatile memory element (113), and is formed adjacent to a substrate comprising a corresponding processor element (115) and DRAM cell (114) formed adjacent to the non-volatile memory element.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 703-305-9660. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung
Primary Examiner
Art Unit 2676